REMARKS

The objections, rejections and comments of the Examiner set forth in the Office Action dated April 4, 2004 have been carefully reviewed by the Applicants. Claim 3 is canceled herein. Claims 14 and 18 are amended herein. Applicants note that no new material is presented as a result of the amendments herein.

35 U.S.C. § 112

Claims 3 and 18 stand rejected under 35 U.S.C. § 112. Claim 3 is canceled herein. Claim 18 is amended herein to remove the rejected limitation. Applicants respectfully assert that Claim 18 overcomes the rejections of record and respectfully solicit allowance of this Claim.

35 U.S.C. § 102

Claims 1-6, 8-9, 11-19, 21-22 and 24-25 stand rejected under 35 U.S.C. 102(b) as allegedly being anticipated by Bill et al. (US 5,724,248).

With respect to Independent Claims 1 and 14, Applicants respectfully assert that Bill does not teach, suggest or disclose the claimed limitation of "cells are programmable from a first programmed state <u>directly</u> to a second programmed state" as recited in Claims 1 and 14. The cited passage (Bill col. 4, lines 46-51) refers to how multiple states are <u>stored</u> within a cell, and is silent with respect to how such states are programmed.

Elsewhere, Bill teaches a <u>multi-step</u> operation for programming a cell from a first programmed state to a second programmed state. In contrast to the present claimed invention, Bill teaches programming a cell to each and every level, up to the final (second) state (col. 8 line 7 to col. 9 line 44.) For example, to program a cell to the "third programmed memory state," requires programming the cell to the "first programmed memory state" and subsequently to the "second programmed memory state" prior to achieving the "third programmed memory state." Numerous operations occur between such separate programming steps, e.g., charging of the cell is started and stopped, current sources are turned on and off and data is rotated through shift registers. A process comprising such intervening operations and states can not reasonably be described as "direct."

For this reason, Applicants respectfully assert that Independent Claims 1 and 14 overcome the rejections of record, and respectfully solicit allowance of these Claims.

Claims 2 and 4-5 depend from Claim 1, and Claims 15-17 depend from Claim 14. Applicants respectfully assert that these claims overcome the rejections of record as they depend from allowable base claims, and respectfully solicit allowance of these Claims.

With respect to Claims 6 and 19, the Office Action alleges that "they encompass the same scope of invention as to that of Claim(s) 1-5 except that they draft in method format instead of apparatus format." Applicants traverse. Applicants respectfully assert that Claims 6 and 19 comprise limitations not found in Claims 1-5.

With respect to Claims 6 and 19, Applicants respectfully assert that Bill does not teach, suggest or disclose the claimed limitations of "reading existing cell storage conditions from said device" or "combining said existing cell storage conditions with

programming information to produce new information" as recited in Claims 6 and 19.

Bill teaches a process (col. 8 line 7 to col. 9 line 44) wherein cell voltage is increased in steps until it meets or exceeds a reference voltage corresponding a next higher programming state. This process is repeated until the desired programming state is achieved. Bill does not teach, suggest or disclose any read step within the programming process, nor does Bill teach, suggest or disclose any process of "combining said existing cell storage conditions with programming information to produce new information" prior to programming the new information.

For this reason, Applicants respectfully assert that Independent Claims 6 and 19 overcome the rejections of record, and respectfully solicit allowance of these Claims.

Claims 8-13 depend from Claim 6 and Claims 21-25 depend from Claim 19. Applicants respectfully assert that these claims overcome the rejections of record as they depend from allowable base claims, and respectfully solicit allowance of these Claims.

With respect to Claim 18, Applicants respectfully assert that Bill does not teach, suggest or disclose the claim limitation of "a page buffer, for combining new programming information with previously stored information" as recited in Claim 18. Bill is silent with respect to a page buffer receiving and/or combining "previously stored information."

For this reason, Applicants respectfully assert that Independent Claims 18 overcomes the rejections of record, and respectfully solicit allowance of this Claim.

Applicants have reviewed the following references which were cited but not relied upon and do not find these references to show or suggest the present claimed invention: US 6,288,936 and US 6,067,248.

In summary, Applicants respectfully assert that Claims 1, 2, 4-6, 8, 9, 11-19, 21, 22, 24 and 25 are in condition for allowance and earnestly solicit such action by the Examiner.

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Respectfully submitted,

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